

Docket No.: 020732-214.539 CIP

Appl. No.: 10/827,395

Appendix A

Cathode (Reduction) Half-Reaction	Standard Potential, E° (V)
$\text{Li}^+(aq) + e^- \rightleftharpoons \text{Li}(s)$	-3.04
$\text{Na}^+(aq) + e^- \rightleftharpoons \text{Na}(s)$	-2.71
$\text{Mg}^{2+}(aq) + 2e^- \rightleftharpoons \text{Mg}(s)$	-2.38
$\text{Al}^{3+}(aq) + 3e^- \rightleftharpoons \text{Al}(s)$	-1.66
$2\text{H}_2\text{O}(l) + 2e^- \rightleftharpoons \text{H}_2(g) + 2\text{OH}^-(aq)$	-0.83
$\text{Zn}^{2+}(aq) + 2e^- \rightleftharpoons \text{Zn}(s)$	-0.76
$\text{Cr}^{3+}(aq) + 3e^- \rightleftharpoons \text{Cr}(s)$	-0.74
$\text{Fe}^{2+}(aq) + 2e^- \rightleftharpoons \text{Fe}(s)$	-0.41
$\text{Cd}^{2+}(aq) + 2e^- \rightleftharpoons \text{Cd}(s)$	-0.40
$\text{Ni}^{2+}(aq) + 2e^- \rightleftharpoons \text{Ni}(s)$	-0.23
$\text{Sn}^{2+}(aq) + 2e^- \rightleftharpoons \text{Sn}(s)$	-0.14
$\text{Pb}^{2+}(aq) + 2e^- \rightleftharpoons \text{Pb}(s)$	-0.13
$\text{Fe}^{3+}(aq) + 3e^- \rightleftharpoons \text{Fe}(s)$	-0.04
$2\text{H}^+(aq) + 2e^- \rightleftharpoons \text{H}_2(g)$	0.00
$\text{Sn}^{4+}(aq) + 2e^- \rightleftharpoons \text{Sn}^{2+}(aq)$	0.15
$\text{Cu}^{2+}(aq) + e^- \rightleftharpoons \text{Cu}^+(aq)$	0.16
$\text{Cu}^{2+}(aq) + 2e^- \rightleftharpoons \text{Cu}(s)$	0.34
$\text{IO}^-(aq) + \text{H}_2\text{O}(l) + 2e^- \rightleftharpoons \text{I}^-(aq) + 2\text{OH}^-(aq)$	0.49
$\text{Cu}^+(aq) + e^- \rightleftharpoons \text{Cu}(s)$	0.52
$\text{I}_2(s) + 2e^- \rightleftharpoons 2\text{I}^-(aq)$	0.54
$\text{Fe}^{3+}(aq) + e^- \rightleftharpoons \text{Fe}^{2+}(aq)$	0.77
$\text{Hg}_2^{2+}(aq) + 2e^- \rightleftharpoons 2\text{Hg}(l)$	0.80
$\text{Ag}^+(aq) + e^- \rightleftharpoons \text{Ag}(s)$	0.80
$\text{Hg}^{2+}(aq) + 2e^- \rightleftharpoons \text{Hg}(l)$	0.85
$\text{ClO}^-(aq) + \text{H}_2\text{O}(l) + 2e^- \rightleftharpoons \text{Cl}^-(aq) + 2\text{OH}^-(aq)$	0.90
$2\text{Hg}^{2+}(aq) + 2e^- \rightleftharpoons \text{Hg}_2^{2+}(aq)$	0.90
$\text{NO}_3^-(aq) + 4\text{H}^+(aq) + 3e^- \rightleftharpoons \text{NO}(g) + 2\text{H}_2\text{O}(l)$	0.96
$\text{Br}_2(l) + 2e^- \rightleftharpoons 2\text{Br}^-(aq)$	1.07
$\text{O}_2(g) + 4\text{H}^+(aq) + 4e^- \rightleftharpoons 2\text{H}_2\text{O}(l)$	1.23
$\text{Cr}_2\text{O}_7^{2-}(aq) + 14\text{H}^+(aq) + 6e^- \rightleftharpoons 2\text{Cr}^{3+}(aq) + 7\text{H}_2\text{O}(l)$	1.33
$\text{Cl}_2(g) + 2e^- \rightleftharpoons 2\text{Cl}^-(aq)$	1.36
$\text{MnO}_4^-(aq) + 8\text{H}^+(aq) + 5e^- \rightleftharpoons \text{Mn}^{2+}(aq) + 4\text{H}_2\text{O}(l)$	1.49
$\text{H}_2\text{O}_2(aq) + 2\text{H}^+(aq) + 2e^- \rightleftharpoons 2\text{H}_2\text{O}(l)$	1.78
$\text{S}_2\text{O}_8^{2-}(aq) + 2e^- \rightleftharpoons 2\text{SO}_4^{2-}(aq)$	2.01
$\text{F}_2(g) + 2e^- \rightleftharpoons 2\text{F}^-(aq)$	2.87

strongest oxidizing agent